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United States Department of the Interior
FISH AND WILDLIFE SERVICE
KANSAS STATE OFFICE
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MANHATTAN, KANSAS 66502
913-539-3474

July 21, 1989

Chief, Technical Support Branch
U.S. Environmental Protection Agency
401 M St., SW
Washington, D.C. 20460

Dear Sir:

With this letter, we are transmitting a copy of our Final Report on technical assistance for the gray bat habitat survey, Galena, Kansas Superfund Subsite. This is provided pursuant to provisions of Interagency Agreement No. DW 14933513 01 0, and presents the results of our investigation to determine gray bat habitat suitability on the subsite, prior to initiation of cleanup activities.

Habitat considered marginally suitable for this endangered species was found in only a few locations, and no gray bats were located at any time on the subsite. If you have any questions or comments concerning this report or its results, please do not hesitate to contact us at the letterhead address.

Sincerely,

L. Ronel Finley

L. Ronel Finley
State Supervisor

Enclosure

cc: EPA, Washington, D.C.
(Regional Project Officer)

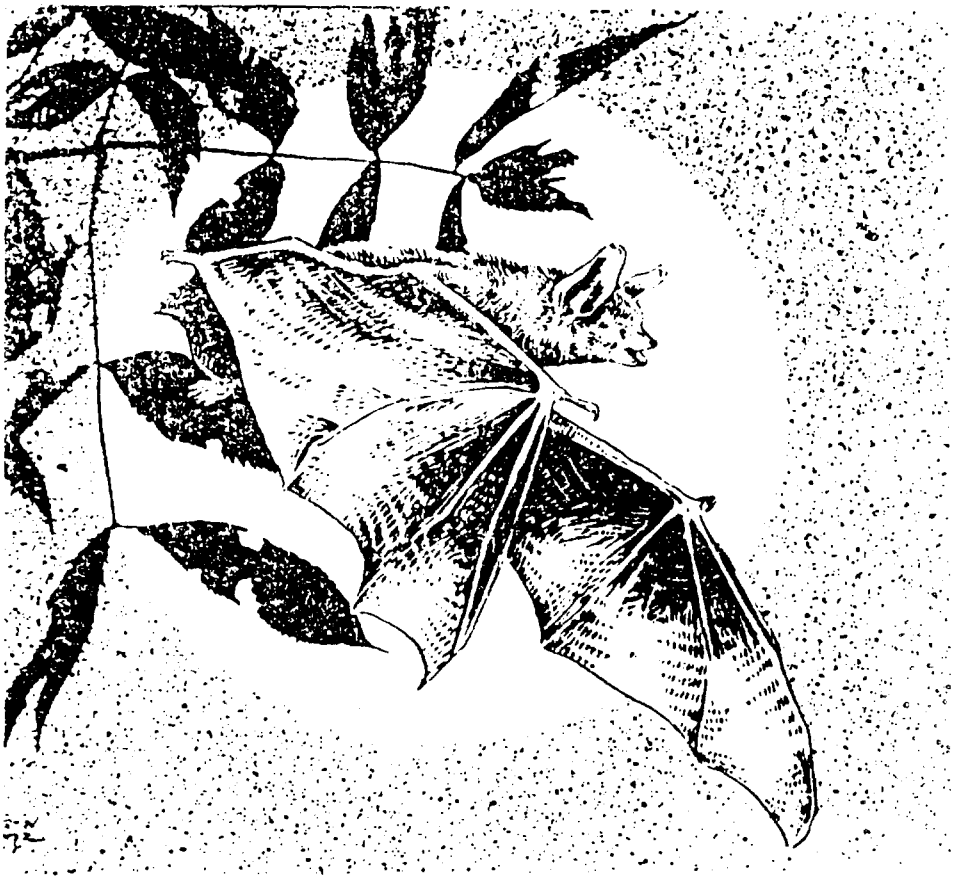
EPA, Kansas City, KS
(Waste Management Division)

FWS/FWE, Denver, CO
(Assistant Regional Director)

FWS/FWE, Grand Island, NE
(Field Supervisor)

KDWP, Pratt, KS
(Environmental Services)

FINAL REPORT ON TECHNICAL ASSISTANCE
GRAY BAY HABITAT SURVEY
SUPERFUND CLEANUP - GALENA SUBSITE



SUBMITTED TO
U.S. ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.

BY
U.S. FISH AND WILDLIFE SERVICE
MANHATTAN, KANSAS

JULY 1989

FINAL REPORT ON TECHNICAL ASSISTANCE
GRAY BAT HABITAT SURVEY
SUPERFUND CLEANUP - GALENA SUBSITE

INTRODUCTION

This is the final report of the U.S. Fish and Wildlife Service (Service) submitted to the U.S. Environmental Protection Agency (Agency), providing technical assistance regarding the proposed cleanup of the Galena Subsite of the Cherokee County, Kansas Superfund Site. This report documents the results of a habitat survey conducted to evaluate the potential for impacts from the proposed cleanup to the federally listed endangered gray bat (Myotis grisescens). It is provided in partial fulfillment of Interagency Agreement No. D 14933513 01 0, signed in September 1988 between the Service and the Agency.

DESCRIPTION OF THE STUDY AREA

Cherokee County is the extreme southeastern corner county in Kansas. The city of Galena, population 3,600, occurs in the southeast corner of Cherokee County, in an area where the Ozark Plateaus Province cuts across Kansas. The major streams in the area are the Spring River and Shoal Creek, tributaries to the Neosho River. Riparian timber occurring along these streams includes cottonwood, silver maple, box elder, white ash, honey locust, black walnut, mulberry, American sycamore, bur, white, Shumard's, and chinquapin oaks, sandbar, black, and peach-leaved willows, red and white elms, hackberry, river birch, bitternut and shagbark hickories, and black cherry. Shoal Creek is the only true Ozarkian stream in Kansas, and the surrounding country is typical of the Ozark Upland Plateau with associated oak-hickory forests (Ray et al. 1976).

The Galena Subsite (ID #KSD980741862) of the Cherokee County Superfund Site consists of approximately 6.25 square miles in and around the city of Galena (Figure 1). Several thousand abandoned mine openings occur within this subsite area, varying in size, depth, configuration, and the extent to which they remain open or have became plugged with rock or debris (McCauley et al. 1983). Many of these mines occur in open areas, either pasture land or areas denuded of trees by past mining activities, with only a small percentage occurring in wooded areas.

The gray bat occupies a limited geographic range in limestone cave areas in the southeastern United States, including the southeastern corner of Kansas (U.S. Fish and Wildlife Service 1982) (Figure 2). The species has been documented from Kansas, including a maternity colony utilizing the Pittsburg (Crawford County) storm sewer system (Jones and Downhower 1963, Hays and Bingman 1964). Previous attempts to document additional maternity or roost sites in ether Crawford or Cherokee Counties have been unsuccessful.

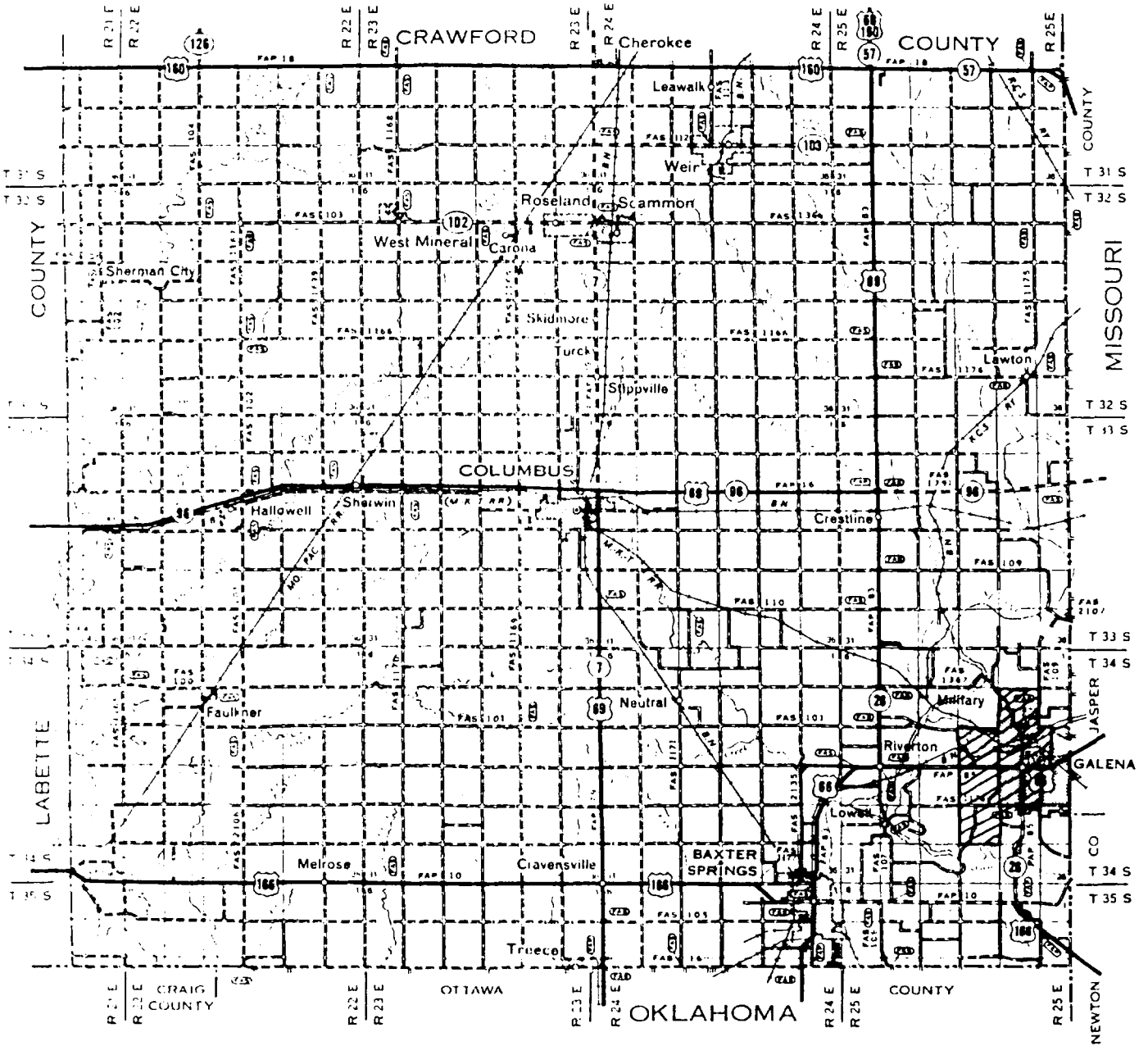


Figure 1. Cherokee County, Kansas, indicating the location and boundaries of the Galena Superfund Subsite.

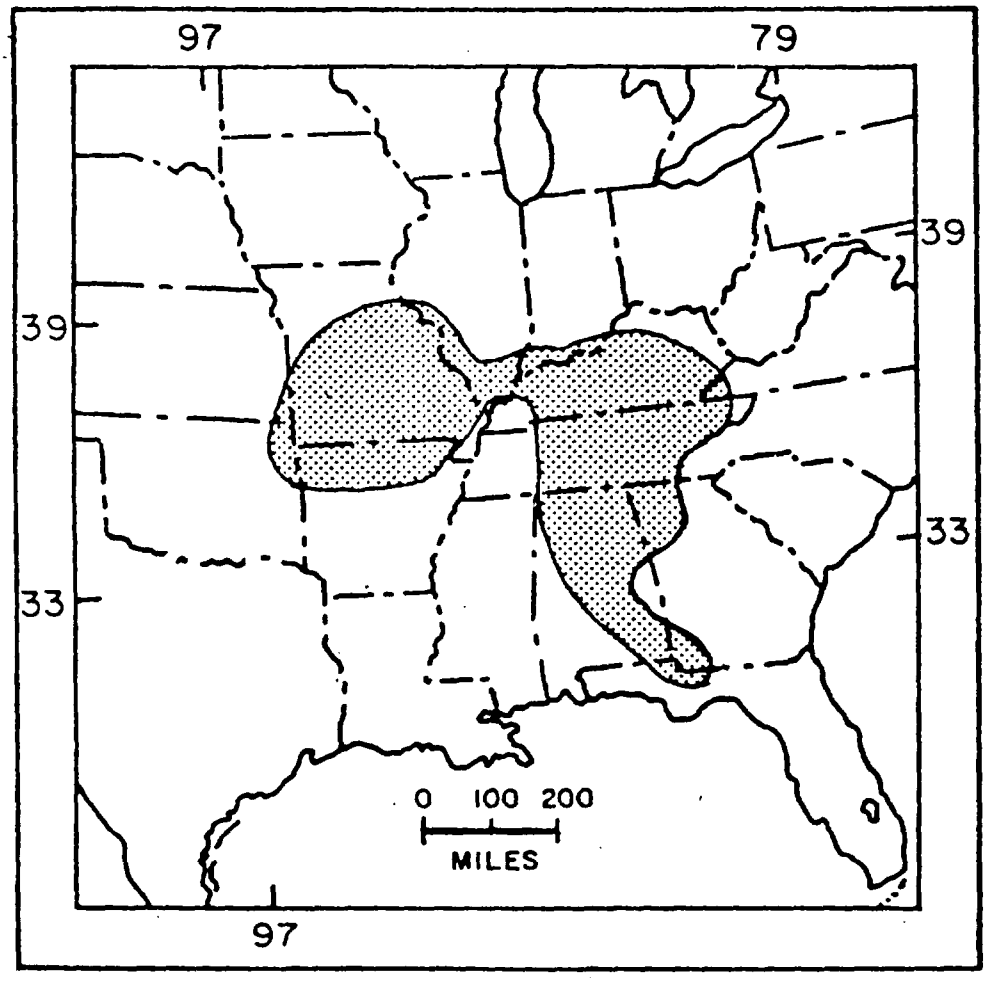


Figure 2. U.S. distribution of the gray bat (Myotis girsescens).

DESCRIPTION OF THE PROJECT

As part of the nationwide Superfund cleanup program, the Agency plans to renovate the Galena Subsite, filling in as many open mine shafts as possible, reshaping and recontouring the landscape, and revegetating with native plant species. The Service raised the concern that these areas could potentially be providing artificial habitat for the gray bat. This species is almost totally restricted to the use of caves or cave-like structures as its primary habitat (Jones et al. 1986, Tuttle 1975). The proximity of the Pittsburg maternity colony to the Galena Subsite, with its thousands of subterranean mine shafts, led to a belief that the gray bat could occur in the project area.

Pursuant to Section 7(a)(2) of the Endangered Species Act (16 U.S.C. 1531 et seq.), all Federal agencies must ensure that actions which they authorize, fund, or carry out do not jeopardize the continued existence of federally listed threatened or endangered species. To this end, Federal agencies are directed to consult with the Service if it is believed a project may affect a listed species. Since neither the Service nor the Agency knew for certain whether gray bats occupied the proposed project area, an Interagency Agreement was entered into which included provisions for the Service to conduct a survey of the area and recommend measures to avoid or minimize impacts, if any.

SURVEY METHODOLOGY

The Service contracted with the Biological Department of Pittsburg State University to assist with this survey. Kansas Geological Survey (McCauley et al. 1983) maps and information were utilized to locate and characterize mine shaft openings in the subsite.

Each section of the subsite was searched on foot during December 1988 and January 1989, locating mine openings and estimating the potential for each opening and surrounding area to provide gray bat habitat. Potential habitat was considered to be that with some combination of features reported as important to this species (Barbour and Davis 1969; Decher 1989; Tuttle 1975, 1979). These features include horizontal shafts or vertical shafts with horizontal shafts extending from them, shafts with a degree of vegetative canopy over or adjacent to them, horizontal shafts with water-covered floors, and shafts near waterways or near ravines leading to waterways.

Locations of mine openings which met any of these criteria were recorded on project maps for subsequent evaluation. A total of 28 mine openings in 14 different locations were noted as having at least marginal potential for supporting gray bats (Figure 3). None of these sites appeared to be optimal habitat for the species, but did indicate they warranted additional surveying during the active bat use season.

Additionally, several local Galena residents who had knowledge of the area were interviewed by Dr. Steven Ford and Richard Laas, Pittsburg State University. They were questioned regarding the possible existence of unmarked openings, and their memory of seeing bats in the area. Information provided

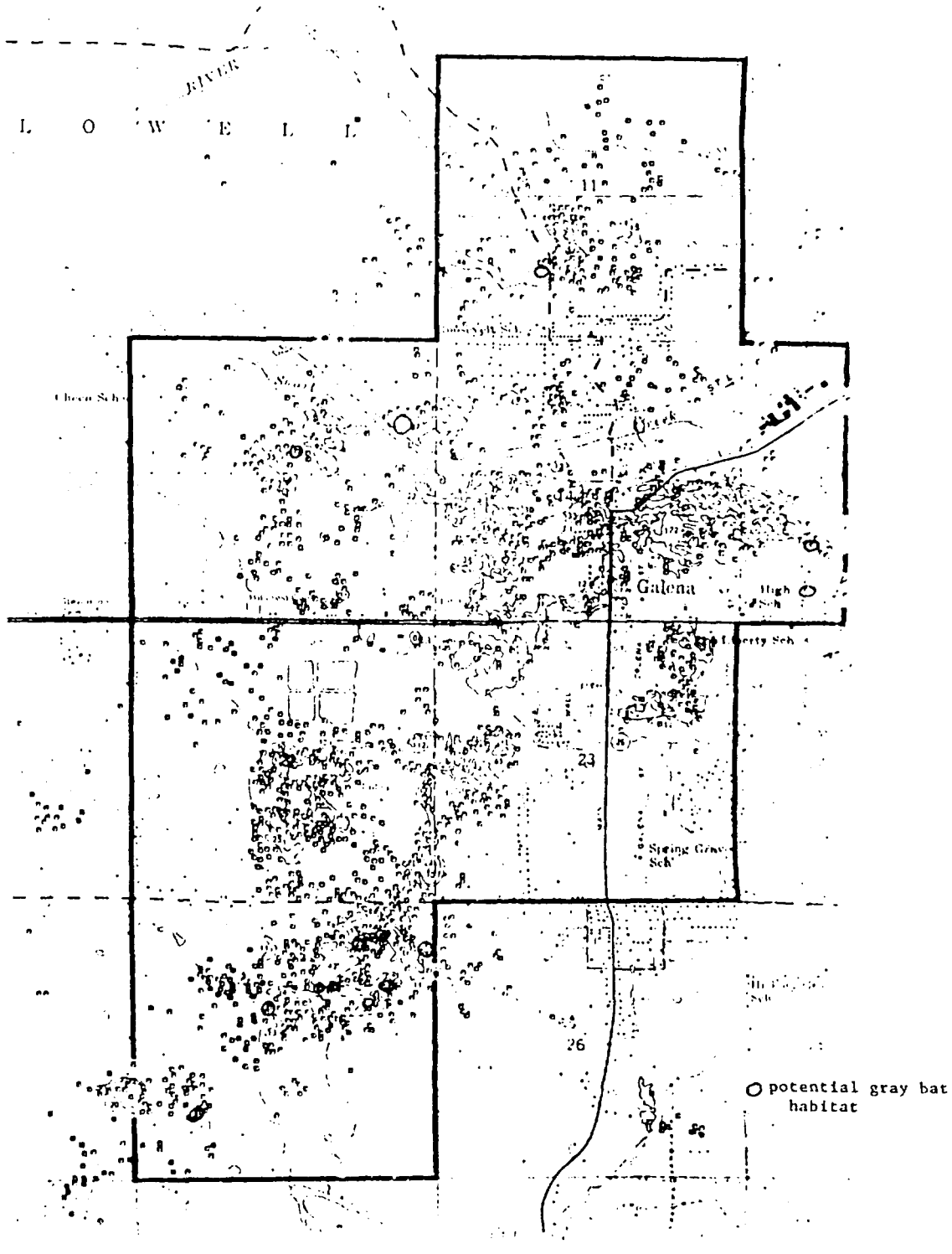


Figure 3. Mine opening locations within the Galena Subsite which appeared to provide at least marginal potential habitat for the gray bat.

by these individuals did not indicate the presence of any additional habitat areas, nor were bats known to frequent any of the designated mine shafts. Ford and Laas coordinated site visits with Galena city officials, and the surveys met with no opposition.

Periodic monitoring of the Pittsburg storm sewer system allowed a verification of when gray bats returned to southeast Kansas in the spring. Return visits to potential habitat site were delayed until after gray bats were seen utilizing the sewer system. During May and June 1989, each designated mine opening was monitored for any bat activity.

The shafts were monitored by observers positioning themselves near the openings from dusk until well after dark, the time during which any gray bats present would be emerging to forage for insects. Observers utilized flashlights shone across and into mine entrances, and in some cases utilized an electronic bat detector. This device translates the bat's largely inaudible vocalizations into sounds audible to the human ear (Dr. Steven Ford, personal communication). All designated openings were monitored at least one evening in this manner, and more promising sites were monitored twice.

RESULTS AND CONCLUSIONS

It is believed that if gray bats were present in any of the monitored mine shafts, they would have been detected by the observing individual(s). However, no gray bats were observed during these evening surveillances nor at any other time during this study. On two occasions bats were seen in the air, but could not be determined to have emerged from any shaft. Two facts led to the conclusion that these were not gray bats: 1) they were of a relatively large size; and 2) they were in small groups of three individuals or less, whereas the gray bat generally occurs in large colonies of from several hundred to several thousand individuals. The observed bats were believed by Ford and Laas to probably be big brown bat (Eptesicus fuscus).

While it is still impossible to state with complete certainty that gray bats do not occur in the Galena Subsite, this appears to be a reasonable conclusion. There is very little habitat which could be considered favorable for supporting bat colonies, with most of the better habitat located at the southern end of the subsite, nearest Shoal Creek. Even this better habitat failed to produce evidence of the species during this investigation.

Based on these results the Agency could reasonably conclude that there should be no impact from its proposed project on the endangered gray bat. However, in the unlikely extent that gray bats are discovered before or during project cleanup, consultation should be reinitiated with the Service in order to avoid a possible taking of an endangered species.

L. Ronel Finley
State Supervisor

7/21/89
date

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